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In replying please address:




25X1

February 14, 1961

Dear Sir:

In accord with a recent, brief discussion with your technical representative, we are submitting herewith a proposed program of additional research under Work Order No. IX, Task Order No. KK, directed toward the development of an integrated electric-motor- and gasoline-engine-driven blower assembly for use with the Model 1 paper-burning incinerator.

In our previous efforts under this Work Order, a preliminary study was made in order to provide a basis for selecting suitable components for an appropriate experimental integrated blower assembly, which, when driven by the electric motor, was to operate on 50/60-cycle, 220-volt, 3-phase current. Subsequently, a sketch of an experimental assembly was prepared and used by us and one of your technical representatives in a discussion with the engineering personnel of  After a factory design for an appropriate integrated motor - engine - blower assembly was mutually agreed upon, one experimental unit was procured for evaluation.

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The air-flow measurements which were subsequently made and associated basic considerations indicated that the experimental assembly would provide satisfactory performance and characteristics for normal, long-term service on 50-cycle current. However, it is estimated that with 60-cycle current used, in view of the relatively large diameter of the present impeller wheel the demands on the electric motor would be such that the life of the motor in this application would be shortened significantly. Further, it was found that the magnetic starter switch provided with this experimental assembly would be satisfactory for 60-cycle-current operation, but it appeared that the switch would not perform properly when 50-cycle current was being used.

Accordingly, it is proposed that additional research be performed under Work Order No. IX, Task Order No. KK, as outlined below.

As currently contemplated, the relationship between the impeller-wheel diameter and satisfactory motor-blower-unit performance and characteristics for operation on 50/60-cycle, 220-volt, 3-phase current would be reviewed. Also, consideration would be given to the magnetic-starter-switch problem. Further attempts would be made to find a commercially available switch which would be satisfactory in this application. If none is available, this problem could probably be circumvented; for example, an arrangement consisting of two switches, one equipped with 60-cycle- and the other with 50-cycle-current holding coils, could be connected in parallel to the electric motor, to provide the desired degree of versatility in starting the electric motor.

Subsequently, a discussion would be held with your technical representative, and selections would be of an impeller-wheel size and of a type

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of switch or switch arrangement which were mutually considered to be satisfactory. Appropriate items would be procured and installed on the present assembly.

The experimental assembly would then be evaluated. Air-flow measurements would be made on the blower driven by the electric motor and by the gasoline engine, at selected back pressures up to 12 inches of water. These data would be compared with those obtained previously in connection with the Model 1 incinerator development. Also, the operation of the experimental assembly would be demonstrated to your technical representative.

Every effort would be made to expedite the performance of the proposed additional research. It is currently anticipated that the quoted delivery time for an appropriately sized impeller wheel would be three to four weeks. In view of this, and if, as expected, the results of the proposed additional effort are favorable, it is currently expected that the experimental integrated assembly could be shipped to your technical representative within about two weeks of the time of delivery of the impeller wheel.

Your technical representative would be kept informed of the progress of the proposed effort by discussions during periodic visits and via telephone. At the conclusion of the proposed research period, a summary letter report would be submitted that described the activity performed.

We propose to undertake this effort over a period of five months (starting January 1, 1961). The proposed additional research could be conducted under Task Order No. KK. The amendment to the Work Order would be a period-basis research agreement; it could be similar in form to those used previously under general-service-task contracts and the same

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administrative procedures would be followed. The amendment to the Work Order would require only that the effort be directed toward the objectives outlined above, within the limits of the time and funds provided.

It is estimated that an additional appropriation of \$490 is needed to fund the proposed effort during the five-month period. In view of the technical urgency for obtaining the research results contemplated by this proposal, and because of other factors of concern to us, we elect to waive the fixed fee for this research in order to expedite the contractual arrangements. Of course, we do not intend to set a precedent by the waiving of the fixed fee in this instance. A general breakdown of the increase in the estimated appropriation is attached.

If any additional information is needed, please do not hesitate to call us. Any inquiries of a contractual nature may be directed to

[redacted] Expeditions consideration of this proposed program of additional research would be appreciated.

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Very truly yours,

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EES:mlm

In Duplicate

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PROPOSAL OF

~~xxxxxx~~ additional research on "The Development of an Integral Motor-Blower Assembly for the Model 1 Incinerator".

5 months (starting January 1, 1961).

Based upon a period-basis contract for a research period of

Including time for submission of all reports. (The proposed contract will not provide for earlier conclusion of the research.)

### ESTIMATED COSTS

It is expected that the cost of this research for the period indicated above may be distributed approximately as set forth hereon, subject to the understanding that this allocation is merely an estimate, and actual costs incurred may vary from the categories shown. It has been determined that these estimates are reasonable and consistent with established policies as approved by cognizant Government representatives. These policies are briefly discussed below and will be followed in determination of the actual costs hereunder.

#### Materials, Supplies, & Misc.

Including purchase orders and any equipment which may be purchased as necessary in performance of the research. Materials, supplies and equipment charges of \$25 or less are excluded from this item. Miscellaneous includes such items as postage, telephone, telegraph, freight, express, etc.

~~x~~ Nominal  
\$

#### Use of Equipment

Includes actual use of owned specialized technical equipment at a rate established for each item of equipment. This rate is based on depreciation, maintenance, utilities, and other expenses necessary to the operation of the equipment.

Nominal

#### Technical Services

Includes operating expenses of research and service divisions charged only to the contracts active within each division on the basis of the direct services provided.

\$ 55

#### Travel

Includes the actual cost of transportation and reasonable actual subsistence expenses. An allowance of ten (10) cents per mile for necessary travel by privately owned conveyance is included in lieu of the cost of such travel. Fifteen Dollars (\$15.00) per day is used as a guide in determining the reasonableness of subsistence expenses for necessary travel.

Nominal

#### Salaries & Wages

Including our predetermined accrual for vacation, holiday, and sick-leave pay, pension, and social security.

Type of Employee	No. of Man-Months	Estimated Cost
Supervision	Nominal	x Nominal
Research Engineers	1/4	\$ 195
Lab. Assistants	1/5	75
Other, i.e., Shop, Photo, Steno, etc.	Nominal	Nominal
Total Salaries & Wages		\$ 270

#### Overhead

62 percent of salaries and wages, as they are defined above. Provisional monthly reimbursement will be at the rate of 60 per cent of salaries and wages, as so defined, or at such other provisional rate as may from time to time be mutually agreed upon with the Government's audit representatives. In accordance with the Armed Services Proc. Regulation 3-704.1, "Negotiated Overhead Rates", this is a provisional rate for current reimbursement, which has been arrived at by negotiation with Government representatives, and it will be subject to retroactive revision to the "actual" rate agreed upon with them for each calendar year following a detailed audit for that year. The item of overhead includes general research, charges of \$25 or less for materials and supplies, and other categories of costs customarily included in our overhead account. Cash discounts on all purchases will be credited to overhead, instead of to the amount of the purchase. Scrap of appreciable value will be credited directly to the project. All other scrap will be credited to the overhead account, in which the Government participates.

\$ 165

Total Estimated Cost \$ 490  
Fixed Fee  
Contract Price \$ 490

March 15, 1961.

Please let us have your acceptance in our hands by

Unless we extend the time, your acceptance after that date will be subject to agreement.  
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